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EXAMINER	
NGUYEN, STEVEN H D	
ART UNIT	**PAPER NUMBER**
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/981,278	Applicant(s) MATTHEWS, WALLACE	
	Examiner Steven HD Nguyen	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-113* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-113* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 3-113 are objected to because of the following informalities:

Regarding claims 3, 36, 65, 79, 91, 92, 93, 95, 96, 97, each step must be end with semi colon, excepting the last step must be end with period.

Regarding claims 3, 12, 16, 18, 22, 29, 30, 32, 33, 34, 35, 67, 90, 101, 108, 109, the parenthesis in the claims must be deleted excepting for an acronym or formula.

Regarding claims 32-35, 37-57, 59, 60, 71, the quotation mark in the claims must be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-113 rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

4. Claims 1-113 provides for the use of route determination algorithm, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-113 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

5. Regarding claims 4-6, 16, 21, 69, the phrase for example or i.e renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6. Claims 3, 8, 11, 19-22, 29, 30, 36, 38-42, 45-46, 49-50, 53-54, 60, 66, 69, 70, 74-77, 79-85, 91-96, 99, 101-104 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3, 8, 11, 19, 21, 29-30, 60, 66, 69, 70, 74-77, 79, 80-85, 91-92, 99, 101, 102, 103, 104, these claims are vague and indefinite because they contains at least two period. Each claim must contain only one period at the end of the claim.

Regarding claim 8, 20-22, 36, 38-42, 45-46, 49-50, 53-54, 77, 91-93, 95, 96, 97, these claims are vague and indefinite because they do not end with a period.

Regarding claim 3-5, 7-11, 13-15, 20, 21-22, 26, 29, 30, 38-57, 60, 66, 67, 92-4, claim 2a , claim 2b , claim 2c , claim 2d , claim 2h , claim 2g , claim 2e , claim 36a , claim 36b , claim 36c , claim 36d , claim 2f , claim 65e , claim 91d , claim 91a or claim 91c , is vague and indefinite because it's unclear what the application is constituted for.

Regarding claim 3, 11, 13, 24-25, 28, 59, 66, 78, (claim 2.d), (claim 2.f), (claim 26), (claim 23), (claim 29), (claim 30), (claim 31), (claim 32), (claim 36), (claim 59) or (claim 70) is vague and indefinite because it's unclear what the application is constituted for.

Regarding claim 79, (additive type-claim 36c), (minimum type-claim 36b), (set minimums type-claim 36e), (additive claim 36c) or (probability-claim 36d) is vague and indefinite because it's unclear what the application is constituted for.

Regarding claim 81-92, 95-100, 102, 112-113 (specialization of claim 30), (specialization of claim 25), (specialization of claim 2g), (specialization of claim 67), (specialization of claim 6), (specialization of claim 12) or (specialization of claim 3) is vague and indefinite because it's unclear what the application is constituted for.

Regarding claims 32-35, 37-57, 59, 60, 71, step_over, meet_requirements , improves , update or find_route is vague and indefinite because it's unclear if it's the same as the elements above. The applicant should use the to refer to a previous element.

The applicant should correct the 112 problem.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-113 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention is directed to an algorithm for selecting a final route that do not fall within any of the four categories of statutory subject matter of 35 U.S.C. § 101. The claimed invention is not limited to a practical application. Viewed as a whole, the claimed invention merely expresses an algorithm for selecting a final route. It does not impart any function to the processing system, i.e., the claimed invention is not practical applied. Instead, the claimed invention merely describes how to select a final route. The claimed invention is clearly not a process because they do not have any limitation to a practical application such as after selecting what the applicant uses the selection for. The other three § 101 classes of machine, compositions of matter and manufactures can be group as product claims, and the product classes have required physical structure or material. The claimed invention does not itself perform any useful concrete and tangible result, i.e., *no post solution activity*, and thus does not fit within the definition of a machine. In addition, the claimed invention an abstract construct; therefore, the claimed invention does not fall within the product classes, machine and composition of matter.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-113 are rejected under 35 U.S.C. 102(e) as being anticipated by Zadikian (USP 6631134).

Regarding claim 1, Zadikian discloses a route determination algorithm with the properties that it routes on multiple levels (physical and virtual path) concurrently using varying related route requirements (bandwidth and optional metrics), paths from lower levels act as simple links at higher levels (physical path and virtual path) , and returns a selection of routes of varying characteristics that all meet the route requirements (Fig 15, Ref 1520) for final route commitment (Fig 15).

Regarding claim 2, Zadikian inherently discloses each level has the following level specific data sets: a set of nodes b; a set of links that interconnect the nodes; an array describing the interconnection of links and nodes; a level is either full duplex or half duplex; a set of metric properties used at this level; a cache fill algorithm used to fill the array of cache entries for this level; resource reservation, selection, and commitment method; a cache of previously discovered approximate paths that have not yet been aged out (Fig 1b).

Regarding claim 3, Zadikian discloses each node/link has a set of primitive metric values that are used to calculate a path's aggregate values (Fig 15, Ref 1520, metrics, col. 5, lines 22-45).

Regarding claim 4, Zadikian discloses each node/link has a set of resources that are used to interconnect the links to provide a data transmission path of multiple hops (Fig 15, Ref 1520, bandwidth).

Regarding claim 5, Zadikian discloses the resources a node has determines whether it has a basic property that is used to determine the node's participation at a level (Fig 15, Ref 1530, No).

Regarding claim 6, Zadikian discloses a node has a set of ports that serve as input or output for a data stream, the port has a line speed that is an operational characteristic, and it has the ability to connect any of its input ports to any output port to extend a data transmission path (Fig 1B).

Regarding claim 7, Zadikian discloses a node may have properties that allow it to participate at multiple levels and its participation at one level is not conditioned on its participation at any other level (Fig 15, Ref 1530, Yes).

Regarding claim 8, Zadikian discloses wherein at the lowest operational level of the algorithm a link is either a set of single fibers that all have the same node terminations and can transmit data in the same direction (Fig 1B).

Regarding claim 9, Zadikian discloses each link has a set of resources that are used to carry multiple data streams from its transmission ports to its receiving ports (Fig 1B).

Regarding claim 10, Zadikian discloses at levels above the lowest level, a link is a cache entry at the next lower level; possibly cascading to the lowest level (Fig 1B).

Regarding claim 11, Zadikian discloses each link has a set of primitive metric values that are used to calculate a path's aggregate values by the cache fill algorithm (Col. 7, lines 35-52).

Regarding claim 12, Zadikian discloses when a link is actually a set of cache entries from a lower level, it inherits the cache entries path aggregate metrics as its link metrics (Col. 7, lines 35-52).

Regarding claim 13, Zadikian discloses during cache fill, a link has a set of pheromone aggregate metrics that are initialized at worst case values so that the first path probe of a non-transited link will always pass the improves condition, update the value and succeeding possible transits will only work if they can improve the value further (Col. 7, lines 35-52).

Regarding claim 14, Zadikian discloses for half duplex links, all transmission ports are components of the same node and all receive ports are components of the same node (Fig 1A).

Regarding claim 15, Zadikian discloses the neighbor array has an entry for each node at this level, each cell contains a list of pairs (Fig 1B, source and destination).

Regarding claim 16, Zadikian inherently discloses each pair is the pointer to a link and a pointer to a node (Fig 1B).

Regarding claim 17, Zadikian discloses for full duplex links, the neighbor node will have a companion entry including the same link and itself (Fig 1A).

Regarding claim 18, Zadikian discloses this structure allows as many links between the same pair of nodes as there are unique links with differing routing characteristics (Col. 23, lines 3-20).

Regarding claim 19, Zadikian discloses half duplex nodes, the direction of travel is embedded in the neighbor structure (Fig 1b).

Regarding claim 20, Zadikian discloses for each level, two independent caches are maintained; one for full duplex path requests, the other for half duplex path requests (Fig 1b).

Regarding claim 21, Zadikian discloses each cache may have sub-caches for route differentiation to preserve routing properties (Col. 7, lines 35-52).

Regarding claim 22-25, Zadikian discloses the cache structure is a directory of directories each destination level cache entry also contains an age property of when the cache was filled; wherein the age property is the current path index Value at the global level of the algorithm of the route request that causes the cache to be filled; a cache entry's age is the difference between the current path index and the one recorded (Col. 7, lines 35-52).

Regarding claim 25-29, Zadikian discloses each cache level has a get_path method that returns a set of possible paths from the source to the destination that meets the routing requirements; each level's get_path method checks to see if the cache is empty or aged out and if it has, it attempts to get a cache from its next lower level and only if that fails will it fill its cache from that lower level and build an entry for the destination node and then attempt to fill the path request from that cache's entries; wherein each level's get_path method passes its results to the global get_path function which converts the relative path at that level to the fully filled in final path by using the top level's commit method; wherein each cache level has a commit method that reserves resources for its level components (links or nodes) and then commits the lower level portions of its path (Fig 15).

Regarding claims 30-36, Zadikian discloses a metric set for a level is made up of a set of primitive metrics that have a set of methods that are common to all; wherein the common methods are step_over, meets_requirements, improves, update, is_equal, better, copy, get_value; step_over accepts a path aggregate metric or metric set and a node or link specific metric or metric set and produces a new path aggregate metric set that represents the path values when the path is extended over the node or link being considered; wherein meets_requirements accepts a path aggregate metric (or metric set) and a route requirements aggregate metric or metric set and

returns a Boolean value whether the path does or does not meet the route requirements; improves accepts a path aggregate metric or metric set and a pheromone aggregate metric or metric set and returns a Boolean value whether the path can improve on one or more critical primitive metrics that apply to this level of the algorithm; update accepts a path aggregate metric or metric set that will improve upon a pheromone aggregate metric and the pheromone aggregate metric or metric set and records the improved values in the pheromone aggregate primitive metrics that will be improved (Fig 15).

Regarding claims 36-57, Zadikian discloses general primitive metrics are one of the following types: a) Boolean b) minimums c) additive d) probability e) sets of minimums; a subset of the primitives of a set participate in the improves method of the set; step-over a Boolean produces an AND of the two input values; meets-requirements of a Boolean is the AND of the two input values; improves of a Boolean is true if the path aggregate is true and the pheromone value is False; update of a Boolean substitutes True for a pheromone's value if the path aggregate is True and the pheromone value is False; step_over a minimum produces a minimum of the two input values; meets_requirements of a minimum returns True if the path aggregate is larger than or equal to the requirements aggregate; improves of a minimum returns True if the path aggregate is larger than the pheromone aggregate and False otherwise; update of a minimum replaces the pheromone value with the path value IF the path value improves the pheromone value; step_over an additive produces a sum of the two input values; meets requirements of an additive returns True if the requirement aggregate is equal to or larger than the path aggregate; improves of an additive returns True if the path aggregate is less than the pheromone aggregate and False otherwise; update of an additive replaces the pheromone value

with the path value IF the path value improves the pheromone value; step_over a probability produces a multiplication of the two input values; meets requirements of a probability returns True if the requirement aggregate is less than or equal the path aggregate; improves of a probability returns True if the path aggregate is larger than the pheromone aggregate and False otherwise; update of a probability replaces the pheromone value with the path value IF the path value improves the pheromone value; step_over a set of minimums produces a set of minimums of which each indices value of the output is the minimum of the corresponding indices of the input values; meets_requirements of a set of minimums returns True if any indices value of the path aggregate is greater than or equal to the requirements aggregates corresponding indices value; improves of a set of minimums returns True if any pheromone aggregate's indices value is zero and its corresponding path aggregate's indices value is greater than zero; update of a set of minimums replaces the pheromone indices value with the corresponding path indices value if the path value is greater than the pheromone value (Fig 15).

Regarding claims 58-113, Zadikian inherently discloses (Fig 1B and 15, DWDM, fiber, ADM) each level may have a custom cache fill algorithm or it may use a common one that depends upon the level specific metrics to customize its behavior; the common cache fill algorithm uses the step_over, meets_requirements; improves and update methods to guide the level specific cache filling; the cache fill algorithm starts from the source and explores all one hop paths to neighbors, followed by 2 hop paths, then 3 hop paths until there are no more paths to explore; each iteration of the algorithm works off of a ring structure developed as an output by the preceding iteration and produces a ring structure to be used as input for the next iteration; the ring is a directory of value and path combinations for the next intermediate node in an outward

probe; each intermediate node iteratively examines its neighbors for possible extensions to its set of partial paths; each time the algorithm steps over a link and next node successfully, it writes all the paths that it is carrying with it to the cache; a path does not output to the output ring when: a) The intermediate node or link is disabled b) The link lambda parameters do not match the paths lambda parameter c) The path already contains the link or node d) The intermediate path exceeds any route requirement metric e) The intermediate path encounter a link that has already been transited and it can't improve upon the link's pheromone value; each successive transit of a link must improve upon one of several primitive pheromone values left by previous transits; each level of the commits method cascades down to commit lower level components before it returns a committed path to its upper levels; when higher level paths find that a full path that it is trying to commit cant be completed, it has to release the committed or reserved lower level segments of the path before examining the next possibility; each level is associated with specific routing properties and all paths in the level's cache will possess that routing property and all links and nodes participating in the level will preserve the property; the algorithm maintains a global index that is incremented for each path request at any level. This is used to record when cache entries are filled and to age them out; the algorithm has a find_route method that accepts a number of parameters such as source, destination, routing requirements, and initial aggregate values and returns either an acceptable route or a failure indicator; the initial aggregate values are provided so that routes from multiple administrative domains may be stitched together into a single path that intermediate Path Determination Algorithms can determine the acceptability of paths they are considering; the routing parameters instantiation sets the find_route method to call the highest level of its cache's get_path method and then calls its select_path method to commit a

path from the current cache entries; the algorithm maintains a set of lambda configurations that includes all configurations seen at any link in its data sets for the Lambda and data regeneration levels; sensitive to any data framing format for the data streams that traverse its routes, nor is it dependent upon any specific formats for exchange of data about the information in its data structures, nor is it specific to any methods of commanding switching and transmission gear to create route segments; that is specific to the problem of routing in an optical network; the levels are from top to bottom: a) Multiplexor level that supports add and dropping sub-channels of varying sizes at particular switch ports in the network; the cache for the lambda signal regeneration and Lambda levels use sub-caching for paths of differing lambda configurations; the primitive metrics are: a) Route Length is the length of a fiber or path in meters; at the lambda switching level a link is a bundle of single fibers or pairs of fibers, each with its own insertion loss that may vary even when all fibers in the bundle are the same length; Lambda level metric set has insertion loss, lambda assignment availability, lambda translator availability, regenerator availability, route length, available bandwidth, latency, jitter, and bit error rate probability; Regenerator level metric set has lambda assignment availability, lambda translator availability, regenerator availability, route length, available bandwidth, latency, jitter, and bit error rate probability; Lambda Translator level metric set has insertion loss, lambda assignment availability, lambda translator availability, regenerator availability, route length, available bandwidth, latency, jitter, and bit error rate probability; O-E-O level metric set has lambda translator availability, regenerator availability, route length, available bandwidth, latency, jitter, and bit error rate probability; Multiplexor level metric set has lambda translator availability, regenerator availability, route length, available bandwidth, latency, jitter, and bit error rate

probability; cache age out for Lambda level is when cache age is greater than the total of minimum lambda assignments available for the minimum path when recorded; cache age out for regenerator level is when cache age is greater than the minimum regenerators available for the minimum path when recorded; cache age out for lambda translator level is when cache age is greater than the minimum lambda translators available for the minimum path when recorded; cache age out for O-E-O level is when cache age is greater than the minimum available estimated connections for the minimum path when recorded; cache age out for multiplexor level is when cache age is greater than the minimum available sub channels for the minimum path when recorded; regenerator level path selection is a 4 step selection of a) order paths on fewest required generators, best lambda configuration, best lambda availability b) pick and reserve generators at nodes c) pick and reserve lambda assignment d) iterate over Lambda level fiber selection with lambda assignment as input until all links have fiber assignments; Lambda level fiber selection is an 5 step selection of a) For the chosen lambda calculate the minimum possible end to end insertion loss by aggregating the minimum nominal insertion loss from the fibers in each link which have that lambda available; Lambda configuration selection is a multi-step task: a) order the configurations in descending order of transmission speed followed by channel count b) iterate from the bottom; ignoring all transmission speeds less than routing requirements c) exhaust all possibilities of a path at a configuration before moving to the next d) if transmission speed is greater than the routing requirements check if the local policy table allows this combination; Lambda assignment selection is a multi-step task: a) precedence order the paths; largest number of non-zero lambda assignments, deepest single lambda assignment, largest count with the maximum depth, lowest lambda index with the maximum depth; lambda translator level

path selection is a multi step task: a) order paths on fewest required translators, fewest required generators, best lambda configuration, best lambda availability, shortest route length b) pick and reserve lambda translators at each node c) find and commit generator level links d) commit lambda translators; O-E-O level path selection is a multi step task a) order paths on fewest required translators, fewest required generators, largest available bandwidth, shortest route length, best bit error rate possibility b) reserve the required bandwidth at each node d) commit lambda translator level links e) commit the bandwidth for the nodes; Multiplexor level path selection is a multi step task a) order paths on fewest required translators, fewest required generators, largest available bandwidth, shortest route length, best bit error rate possibility b) reserve the required bandwidth at each node d) commit O-E-O level links e) commit the bandwidth at the nodes; the entries in each levels neighbor array for the Lambda level and the regenerator level allows as many links between a pair of nodes as there are unique lambda configurations installed on fibers that connect the pair; ports terminates level specific properties; as links inherit characteristics from the cache entries at the next lower level, the metrics of the lower levels are translated into metrics at the higher levels; For the generator level we drop use of the insertion loss primitive metric; Nodes that participate in LAMBDA routing level have switching matrices that maintain a lambdas spectrum properties as they transit the matrix such that a receiver terminating a multi-hop path will not be able to determine whether the transmission was from a direct neighbor or not; Nodes that participate in the regeneration level will also maintain a lambdas spectrum properties; Nodes that participate in the lambda translation level will be able to match output ports that use one lambda with input ports that use a different lambda while preserving the data integrity of the data stream using the lambdas as

transmission media; Nodes that participate in the O-E-O level will preserve the data integrity of the data streams that traverse them; Nodes that participate in the Multiplexor level will provide add/drop multiplexing capability while preserving the integrity of the aggregate data streams that transit the node; is_equal accepts two metrics and produces a boolean `1` if they are or a boolean `0` if not; better accepts a path aggregate metric or metric set and a second metric or metric set and produces a boolean `1` if the second is better than the first; copy accepts an aggregate metric or metric set and creates a new metric that is a copy of the first; get_value of a primitive metric return its current value; a subset of the primitives of a set participate in the meets_requirement method of the set; Whole fiber level metric set has insertion_loss, route_length, available bandwidth, lambda translator availability, regenerator availability, route length, latency, jitter, and bit error rate probability; cache age out for whole fiber level is when cache age is greater than the maximum of the minimum fiber count for each path in the cache.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (571) 272-3159. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven HD Nguyen
Primary Examiner
Art Unit 2616
June 19, 2006